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TRAVELLERS' TALES.

A PROVERB setting forth the small amount of credence due to the reports of travellers, has been found in nearly every country among the dictates of its popular wisdom. The Esquimaux of Baffin's Bay applied it to their countrymen when, on his return from a voyage to Aberdeen in one of the Greenland whalers, he informed them that in the far south he had seen 'sledges with feet like the full moon, drawn by creatures larger than four of their dogs together; herds of animals of the size of the white bear, with horns like that of the narwhal; and tall pillars growing out of the earth, with green heads spreading wide as the summer tents of his tribe.'

'Allah, show mercy to the tongues of travellers!' exclaimed a Bedouin, when a Greek interpreter at Grand Cairo told him that in Christian lands he had seen men make fires of black stones, and burn smoke in their lamps instead of oil. Soon after the arrival of the Portuguese in India, a native of Goa, who had journeyed as far as the Himalaya, told a priest of Buddha that he had seen 'hard water' at the source of the Brahmapootra, and wished to bring some specimens with him, but they melted away in his basket. 'Attempt not to deceive a servant of the gods!' said the priest: 'I have read the books of Buddha, and know all things. The rain descends from the clouds, and the streams run to the sea for ever: water cannot change into stone.' And when the man attested the truth of his statement, the priest's palanquin bearers fell upon him with their bamboos.

Examples of a similar kind might be met with nearer home. We remember one of an old dame residing in a small village on the east coast of Scotland. Her only son had become a sailor on board a vessel engaged in the Greenland whale fishery, and just returned from the northern seas. The event occasioned a kind of assembly at his mother's cottage; old neighbours sat round; and he, as the hero of the evening, related his adventures. All went on well, and the company wondered in silence, till the young man told how the sun had shone on the whaler's track for six weeks without setting, and they had killed a great seal off the coast of Spitzbergen larger than a dray-horse, with tusks twelve inches long, when the mother groaned out, 'Jock, Jock, whar did ye learn to lee? Can ye no tell us something that's Christian like, if it was only about a mermaid?'

The origin of a prejudice so widely diffused, must appear inexplicable to those unacquainted with the accounts which early European travellers, in times when commerce was less extensive, and navigation less understood, brought back from the unknown regions into which they chanced to penetrate. Strange and inco-

herent were those fables—sometimes arising out of distorted veins of existing facts, sometimes originating in ignorance of the language of the natives, and occasionally in the mind of the traveller, deeply imbued with the superstition of his age, and therefore unequal to the task of investigating the reports of popular credulity, or the motives of men interested in their propagation. The works of Greek and Roman authors that have come down to us, and remain, after the lapse of so many centuries, the most certain memorials, and the only intelligible records, of that long abolished state of things which scholars call the classic world, are filled with such marvellous fictions. Most of them are indeed found in the pages of the poets, and generally charged to their account; but it is apparent that these gentlemen only enlarged on beliefs already current among their countrymen, and statements which, however ridiculous they may seem to our better-instructed times, were then implicitly believed by both philosopher and student as part and parcel of the knowledge of their age.

The centre of India was said to be occupied by a people who came to their maturity at five years old, and died of age at twenty. The peninsula of Malacca was spoken of as the golden Chersonesus, whose stones were gems, and whose very dust was heavy with grains of gold. The country of the Simoides in Northern Siberia, then part of the greater Scythia, was assigned as the residence of a race with dogs' heads, who barked out their words in true canine fashion; and the Cimmerian Bosphorus, the place of perpetual darkness and all manner of monsters, was fixed between the Black and Caspian Seas, now one of the finest portions of the vast empire of Russia. But it was on Africa that the travellers of the classic times delighted to expatiate. Its western mountains, under the denomination of Atlas, which they still retain, were popularly believed to support the sky. At their foot were situated the gardens of the Hesperides, the trees of which bore golden fruit, and were guarded by dragons breathing flame. The region now forms part of the new French province of Algeria; and unless we include the Gallic colonists, and the marauding Arabs, neither dragon nor Hesperide is to be seen.

The eastern division of the continent—comprehending Upper and Lower Abyssinia, with which the travels of Bruce, and subsequently those of Major Harris, have now made the reading public tolerably acquainted—was then the country of the Blemmyes—a race of men without heads, having their faces in their breasts; and of the long-lived Ethiopians, a pastoral people who roved over great plains near the equator, possessing nothing but their tents and herds of cattle, subsisting exclusively on flesh and milk, and never dying earlier than the age of one hundred and twenty years. Farther still to the south was the land of the Pigmies, a dwarfish

race, whose tallest men never rose above an English foot, and whose greatest enemies were the cranes.

Nor will the abundance of such errors appear surprising, when it is considered how large a portion of the habitable earth was *terra incognita*, or unknown land, to the famous Greeks and conquering Romans. When Alexander wept for another world in which to try his prowess, his whole geographical knowledge was confined to the south of Europe, the south-west of Asia, and the northern coast of Africa, from Egypt to Tunis, which every schoolboy knows scarcely comprehends one-fifth of the peopled world. The countries that have become greatest and most distinguished in European history were unknown to Alexander. Of the greater part of France, the whole of Austria, Prussia, Denmark, Sweden, and Russia, he knew nothing, and never dreamt of Britain, whose ships now bear her commerce to regions that never heard his name, whose authority extends over the vast region of Hindostan, the western frontier of which his legions thought it such an exploit even to approach; and it is remarkable that there is at this moment in the British Museum an empty urn, traditionally said to have contained the ashes of the great Macedonian, which came into the possession of the English troops on the capitulation of Alexandria in 1802, and was presented by George III. to that institution.

At the commencement of the Christian era, in the reign of Augustus, under whose sway Rome was believed to have attained to the zenith of her splendour in power, in arts, and in literature, the Orkneys were called Ultima Thule, the most northern land known; Cape Roca Sintra, on the west of Portugal, was styled the boundary of earth, and sea, and sky, beyond which mortal ken had never penetrated; the whole north-east of Asia in Europe was denominated the trackless Scythia; and there was a dim traditional idea that India extended southward a great but indefinite distance, and was bounded to the eastward by the far Cathay, as the ancients called China, whose frontier no traveller had ever reached, and whose gods and people were unknown to the rest of the world.

It would seem strange that nations so far advanced in civilisation as the Greeks and Romans undoubtedly were, should have been so ignorant of practical geography, if we were not aware that, notwithstanding their boasted superiority in the arts of painting, sculpture, and architecture, not to speak of many branches of literature, they were miserably deficient in both the theory and practice of navigation. Jason's expedition to Colchis, which furnished a theme for wonder and fable to half the poets of antiquity, was a voyage from the north of Greece to western Georgia, scarcely as far as from London to St Petersburg, and less than a week's sail even to a Russian vessel of the present day. In the Roman times, little speed had been attained. It was no unusual circumstance for vessels bound from Syria to Italy to winter in the port of Crete, now Candia; and from a chapter in the Acts of the Apostles, describing St Paul's voyage in this direction in the reign of the Emperor Nero, we find that it occupied several months to travel a distance which a modern steamer could accomplish in a few days.

About a century before, when Julius Cæsar first attempted to conduct the army with which he conquered Gaul, now France and Belgium, into Britain, they absolutely refused to follow him, saying it was beyond the bounds of the habitable earth. A philosopher of that very country, which seemed so isolated and barbarous to the Romans, the celebrated Dr Thomas Browne, in his work on 'Vulgar Errors,' published in the middle of the seventeenth century, has recorded the following curious specimen of their geographical accuracy:—

'The other relation of loadstone mines and rocks in the shore of India is delivered of old by Pliny; wherein, saith he, they are placed both in abundance and vigour, that it proves an adventure of hazard to pass those coasts in a ship with iron nails. Serapion

the Moor, an author of good esteem and reasonable antiquity, confirmeth the same, whose expression in the word *magnet* is this: The mine of this stone is in the sea coast of India; whereto, when ships approach, there is no iron in them which flies not like a bird into the mountains; and therefore their ships are fastened not with iron, but wood, for otherwise they would be torn to pieces.' And the learned author judiciously adds, 'But this assertion, how positive soever, is contradicted by all navigators that pass that way; which are now many, and of our own nation, and might surely have been controuled by Nearchus, the admiral of Alexander, who, not knowing the compass, was fain to coast that shore.'

During that period which elapsed between the destruction of the Roman Empire and the revival of European learning, known in history as the Gothic ages, geographical knowledge, as well as arts and commerce, were crushed into still narrower limits by the general barbarism and confusion of the times; hence fabulous wonders of all kinds were multiplied, and occupy a conspicuous place in the scanty literature which wandering minstrel or recording monk has chronicled. The whole of Asia, then possessed by the Saracens or Mohammedan Tartars, as far as palmer or pilgrim had penetrated, was celebrated for dragons, griffins, and giants; besides which, in Tartary, there was believed to exist a passage of direct communication with the infernal regions, popular superstition having confounded the name of the country with the old Latin term Tartarus. The north of Denmark and Sweden was the reputed country of ogres—savage giants who dwelt in rock-built castles, and subsisted by cannibalism; Lapland was regarded as the grand warehouse of witchcraft; and the loadstone, probably owing to its wonderful magnetic qualities, made a still greater figure in the geography of the middle ages than it had done in the days of Pliny: huge mountains of this substance were believed to form the northern boundary of the world, by which, when the mariner's compass was discovered in the fourteenth century, the scholars of the age accounted for the magnetic needle continually pointing in that direction.

Yet while such reports were generally believed by the populace, and gravely recorded by the learned, the spirit of the old woman's rebuke to her son, which we have quoted, seems to have influenced the countrymen of Marco Polo, a Venetian traveller, who, towards the close of the thirteenth century, traversed Eastern Tartary and the northern part of China, and returned to tell of the great cities, immense wealth, and overwhelming population he had seen in those hitherto untravelled lands. His accounts, however, were considered so incredible, that the Venetians gave him the sobriquet of 'Millioni,' from the frequent recurrence of millions in his statements, which, allowing for the difference of time, and the effects of conquest, modern discovery has proved to be remarkably correct. But even in times much nearer our own than the middle ages, it is curious to look back on the fables of a similar kind, which were in some degree entertained even by the learned. Long after its conquest by the Spaniards, the centre of South America was supposed to be the El Dorado, or land of gold, where the precious metal might be literally gathered like dust.

When James I. issued his celebrated publication against witchcraft, among the earliest prosecutions for the peculiar crime on which the monarch so profoundly enlarged, is one case known in the parlance of those days as 'The great mystery of Thammes Streette,' which strikingly illustrates at once the terrors and mistakes of the time. It is that of a woman who is indicted for having in her possession 'ane magical vessel to work sorcerie withall, the like whereoff was never seen in Christendom, but had been brought to her by her wicked son in one of the Companie's shippes from the Isles of Spice, whar he gat it from certain Chineses.'

It is satisfactory to know that the unlucky dame

escaped the doom of those who dealt in magic, not being even made to swim for her life, the article in question having turned out, on minute investigation, to be nothing more than a china teapot, and the first of the kind ever seen in England. The account sounds strangely now when read beside one of the countless tea-tables of Britain. But regarding china-ware, some singular tales were afloat in still later times. A learned physician, towards the end of the Commonwealth, remarks, 'We are not thoroughly resolved concerning porcelaine or china dishes, that, according to common belief, they are made of earth which lyeth in preparation about an hundred years under ground, for the relations thereof are not only divers, but contrary, and authors agree not herein. Guido Pancirollus will have them made of egg-shells, lobster-shells, and gypsum, laid up in the earth the space of eighty years. Of the same, affirmation is made by Scaliger, and the common opinion of most. Ramuzius, in his Navigations, is of a contrary assertion—that they are made out of earth, not laid up in the earth, but hardened in the sun and wind the space of forty years.' In addition to this, the doctor observes, 'and of those surely the properties must be verified, which, by Scaliger and others, are ascribed to china dishes, that they admit no poison, that they strike fire, that they will grow hot no higher than the liquor in them ariseth. For such as pass amongst us, and under the name of the finest, will only strike fire, but not discover aconite, mercury, or arsenic, but may be useful in dysenteries and fluxes beyond others.'

Such were the powers accorded to porcelain by the medical profession under Cromwell's sway; but so late as the close of the seventeenth century, we find a letter addressed by the Royal Society of London to Sir Philberto Vernatti, resident in Batavia in Java, filled with questions regarding that part of the globe and its productions, propounded in evident earnestness and gravity. A specimen of these, together with the resident's answers, we present to our readers:—

Question.—Whether diamonds, and other precious stones, grow again, after three or four years, in the same places where they have been digged out?

Answer.—Never, or at least as long as the memory of man can attain to.

Q.—Whether there be a hill in Sumatra which burneth continually, and a fountain which runneth pure balsam?

A.—There is a hill that burneth in Sumatra, near Endrapoe; but I cannot hear of any such fountain; and I believe that the like hill is upon Java Major, opposite to Batavia: for in a clear morning or evening, from the road, a man may perfectly perceive a continual smoke rise from the top, and vanish by little and little. I have often felt earthquakes here, but they do not continue long. In the year 1656 or 1657, I do not remember well the time, Batavia was covered in one afternoon, about two of the clock, with a black dust, which, being gathered together, was so ponderous, that it exceeded the weight in gold. I at that time being very ill, did not take much notice of it; but some have gathered it, and if I light upon it, shall send you some. It is here thought it came out of the hill: I never heard of any that had been upon this hill's top. Endrapoe is counted a mighty unwholesome place, as likewise all others where pepper grows, as Jamby Banjar, though some impute it to the hills burning. As for the fountain, it is unknown to us, except Oleum Terrae is meant by it, which is to be had in Sumatra; but the best comes from Pegu.

Q.—Whether, in the island of Sombro, which lieth northwards of Sumatra, about eight degrees northern latitude, there be found such a vegetable as Master James Lancaster relates to have seen, which grows up to a tree, shrinks down when one offers to pluck it up into the ground, and would quite shrink unless held very tight? And whether the same, being forcibly plucked up, hath a worm for its root, diminishing more and more according as the tree groweth in greatness; and as soon as the worm is wholly turned into the tree,

rooting in the ground, and so growing great? And whether the same, plucked up young, turns by the time it is dry into a hard stone, much like to white coral?

A.—I cannot tell: I met not with any that ever have heard of such a vegetable.

Q.—Whether the Indians can so prepare that stupefying herb datura, that they make it to lie several days, months, years, according as they will have it, in a man's body, without doing him any hurt, and at the end kill him, without missing half an hour's time?

A.—The China men in this place have formerly used datura as a fermentation to a sort of drink, much beloved by the soldiers and mariners, called luzherbier, which makes them raging mad, so that it is forbidden, under the penalty of great pain, to make use of the same.

Q.—Whether the animal called abados, or rhinoceros, hath teeth, claws, flesh, blood, and skin, as well as his horns antidotal?

A.—Their horns, teeth, claws, and blood are esteemed antidotes, and have the same use in the Indian pharmacopoeia as thereica hath in ours.

Q.—If the best ambergrease be found in the islands of Socotora and Aniana, near Java, to endeavour the getting of more certain knowledge, what of its being reported to be bred at the bottom of the sea, like to a thick mud?

A.—The best that is in the world comes from the island Mauritius, and it is commonly found after a storm. The hogs can smell it at a great distance, who run like mad to it, and devour it commonly before the people come to it. It is held to be a riscosity, which, being dried by the sun, turns to such a consistence as is daily seen. Myarine's father, Isaac Zigny, a Frenchman in Oleron, hath been a great traveller in his time, and he told me he sailed once in his youth through so many of these zequalen as would have loadened ten ships. The like having been never seen, his curiosity did drive him to take up some of those, which, being dried in the sun, were perceived to be the best ambergrease in the world. I have seen one piece which he kept as a memento, and another piece he sold for L.1300 sterling. This being discovered, they set sail to the same place where these appeared, and cruising there to and fro for the space of six weeks, but could not perceive any more. Where this place is situated I do not know; but Monsieur Gentillot, a French captain in Holland, can tell you.

Here is an evidence of the amount of information possessed by some of the greatest scholars in Britain, about the period of the Revolution, concerning countries now filled with British commerce, and for the greater part governed by British authority. A man of ordinary education in the present day would smile at the idea of a fountain running pure balsam, and a tree with a worm for its root, which changed into white coral, not to speak of the medicinal claws of the rhinoceros. But when the slowness and difficulty of communication in former ages are considered, together with the barriers of prejudice and hostility which rose between the nations, restricting commerce, and paralysing research, we will no longer wonder that ignorance, and consequent error, on these, as well as on more important subjects, should have been so prevalent.

In our own age, these barriers are considerably broken down by the freedom and extension of commerce, the inquiries of experimental science, and, above all, the general diffusion of instruction, by which more enlightened ideas are communicated to the people, and a more liberal policy prevails among the rulers of every civilised nation. A remarkable example of the contrary state of things existing at the period in which he lived, is given us in the answer of the above-mentioned resident of Batavia to the Royal Society's inquiry whether or not the celebrated birds'-nests, regarded as such delicacies by the Chinese, might be imported into Britain. Be it observed, the Company to which he refers was composed of Dutch merchants, supported by the authority of their government.

'If the question be made—Whether these things may be brought over by permission of the Company? I answer as first, that their laws forbid the transportation of all whatsoever, whether necessary to the conservation of health, or acquisition of wealth, or rarities; and if the querie be concerning the nature and substance of the wood and nests, they are transportable, and can subsist, without decaying, many years.'

Thus did the narrow-minded selfishness of every people in turn impede the investigations of philosophy, and retard the improvement of mankind. It is remarkable, after all, that many an early fable, once believed in the full breadth of its wonder, has been discovered, in later times, to have had its foundation in greatly exaggerated or misrepresented truth. The Blemmyes of the ancients are explained as a savage people of Eastern Nubia, whose short necks and large heads suggested to some early and ill-informed traveller the extraordinary conformation ascribed to them; while the flat faces, coarse features, and guttural tones of the northern Siberians, endowed them with dogs' heads, in the imagination of Southern Europe, for many an age. The ogres of the north were but a distorted and traditional remembrance of the ferocious Sea-kings, or leaders of those piratical bands who issued from the Baltic, carrying ruin and devastation to every coast of Europe, from England to Greece, in the ninth and tenth centuries. In like manner the long tenacious fibres of some Javanese plant or shrub may have given rise to the idea of a living root; and when we take into account the proneness to exaggeration, and love of the marvellous, common to mankind in every climate, similar misrepresentations will be easily explained. They serve, however, to illustrate the power and progress of knowledge, and stand forth as points of comparison between our age and the past, over which we have a manifest advantage. But as the march of discovery is still proceeding with increased velocity, it is difficult to say how much of our own generation's practical wisdom and speculative opinions may be regarded by our successors only as Travellers' Tales.

ARTIFICIAL MARBLE.

We have lately been much interested by an examination of specimens of artificial marble, sandstone, conglomerate, and other mineral productions made by a lady.*

Curious and useful discoveries may be arranged in three classes: first, those which are the result of mere accident, and therefore reflect no honour on those by whom they are made; and second, those made by a new application of known principles or facts, reflecting on the discoverer all the honour due to superior acuteness of mind, and a fine perception of the connection between cause and effect; the third and highest class are those resulting from a preconceived idea, wrought out to demonstration by pure force of reasoning and experiment, which is, in fact, just tangible reasoning.

To this last class belongs the discovery we are about to notice. So far back as 1840, Mrs Marshall was struck with the odd idea, that the animal and vegetable remains so universally found in the secondary and tertiary strata might, by a chemical or electric influence exerted upon the disintegrated particles of these rocks, have been the cause of their aggregation.

Between the first rude outline of this idea and the realisation of Mrs Marshall's wishes, five years, and upwards of ten thousand experiments, intervened. Many of these were forbidden in their detail, and others requiring truly scientific patience to complete; but the whole result has been a satisfactory demonstration that if the constituents of any mineral body of which lime forms a part be mixed in their true proportions (the lime used being free from carbon in any form), and these mixed

with animal and vegetable remains, under circumstances of due moisture and heat, aggregation of their particles will take place at periods varying with the substances under experiment, from a few minutes, to hours, weeks, and months; and these artificial aggregations (allowing for absence of time, and the incalculable amount of superincumbent pressure present in the natural phenomena) come so undeniably near, in appearance and qualities, to the products of nature, as to throw a totally new and interesting light on some of her hitherto most mysterious operations.*

There are two problems which have justly been considered by geologists as among the most difficult in their science: The one is, that the nodules in strata containing fossils, particularly crustaceous relics, contain more lime—taking size for size—than the intervening spaces in the beds. The natural conclusion at first sight is, that the surplus lime accrues from the osseous fabric of the organism. But investigation proves that there is more lime contained in the whole nodule than this will account for. Mrs Marshall's experiments and specimens show that bone or recent shell has, more than any other portion of the animal frame, a power of attracting or of condensing lime, while a counter power is exerted by the lime of hardening or solidifying the bone. This of course acts more powerfully and obviously when the bone and the lime come in immediate contact, as in the nodules of the crustaceous fossils, than in the case of the vertebrata, where the integuments interpose like a screen. Thus if portions of bone, or recent shells, be placed in a heap of sulphate of lime, or of magnesia thoroughly free from carbonic acid, with a very small proportion of vegetable matter added, and the heap so prepared be kept in circumstances of moisture, the parts in contact with the bone will first begin to harden or condense, and this action will gradually radiate to an extent corresponding to the size and form of the osseous matter, while at the same time the bone, even the soft cellular portion, becomes hard and stone-like. The very same effect is produced by and on coral; for not only does the lime harden in an extraordinary degree round the coral, but in the same ratio the latter loses its dull opaque, and becomes semi-transparent. Whether 'countless ages' would bring these to a perfect resemblance of natural fossils, it is hard to say; but a year and a half has sufficed to render them extremely curious, and worthy of attention. The experiments conducted with the constituents of sandstone and lias lead to the very same results, but much more slowly than in the pure lime.

The other problem to which we allude is this: From what cause has it arisen that many mineral substances, and even whole strata, are found identical in the nature and proportions of their constituents, yet totally different in their lithological structure? Such is the stratum frequently above coal and lime, and both above and mingled with sandstone. Mrs Marshall's experiments show that if a mass in imitation of such mineral bodies be prepared, and one part of it left at perfect rest, while the other is agitated or disturbed, the one will harden in a few hours or days into a substance not distinguishable by the eye from the natural stone, and capable of resisting water and weather; while the latter will take as many weeks to harden, and then present a mass which readily degrades by exposure to either. The experiment may be varied thus: Such masses always set or harden from the centre outwards; allow the mass to set till within half an inch of the surface; disturb what remains, and the result will be, that on making a section, the centre will be found hard enough to take a fine polish, while the outer crust will be a mere crumbling mass of chalk or sand.

Mr Hugh Miller, in his 'Old Red Sandstone,' conjectures that the curious outstriking of colours which

* Mrs Marshall, formerly of Manchester, now of Edinburgh. This lady is authoress of several popular works for children, on which, at the time they appeared, we frequently drew for the amusement and instruction of our young readers.

* We would be understood as not prepared to sanction the geological speculation here involved, though we decide on allowing the writer to state his own convictions.—Ed.

here and there occurs in that and some other formations, may have arisen from the action of decaying animal matter. Not only is this completely proved by this lady's experiment, but what Mr Miller seems not to have once suspected, that decaying vegetable matter has the same effect; and doubtless to this, rather than animal, are owing the more curious and grotesque forms in which these white and gray stains appear.

We were particularly interested by one specimen, in which, with the view of solving two problems by one experiment, there had been laid down upon the surface, while yet fluid, a few of the delicately-rounded leaf-stalks of the *Fucus vesiculosus*: of these some had sunk only half, and others wholly, under the surface. In course of time the vegetable matter shrinks to a film that can be blown out with the breath, and there then remains in the mimic stratum perforations which are lined with white, presenting the most perfect resemblance to those mysterious worm-like borings which occur in the face of compact limestone, and have given rise to so much discussion.

The specimens are divided into two classes—the one terrestrial, and the other marine. We are inclined to consider the latter decidedly the more interesting and curious. Patents for Britain and foreign countries have been taken for the use of this discovery. But we confess that, as devoted utilitarians, we feel a far deeper interest in the economic than in the merely scientific results of this discovery, curious and important though they be. Upon the principle developed, two most valuable and entirely new architectural cements have been compounded—the one pure white, the other of a greenish-gray or sage colour.

The first, after the trial of years, has proved itself a certain cure for all damp arising from porosity, or presence of sea salt in building stone, or from want of honesty in building even with good materials—a cause for damp, we regret to say, fully more common than the two former.

It is not easy, on any known or alleged theory, to account for this quality in the cement; but the fact is incontrovertible. We have seen walls in sunk flats (done with it more than two years ago) which had been streaming with damp, noxious and offensive in its effluvia, so as to be quite uninhabitable, rendered perfectly dry, and the apartments offering a peculiarly comfortable sensation to the feelings on entering, as if a fire had recently been in them. This arises from the intonuca* being such a remarkably slow conductor of heat, that the atmosphere in all apartments plastered with it is kept at an even temperature—warm in winter, and cool in summer; whereas common lime, being a very rapid conductor of heat, speedily robs the air of all warmth in winter, and throws in great heat in summer—effects which we but partially obviate by covering it with paint or paper.

This cement also resists fire to a very high degree. Half an inch depth of it has been known to protect lath from intense fire for two hours; and even when it reaches the wood, neither flame nor spark is ever emitted—it merely smoulders slowly into a light-white ash. The cement does not, even under a red heat, crack or fly off from the wall; but if water be thrown upon it at this time, its substance and cohesion are destroyed, and it requires removal.

Dissatisfied with this result, the indefatigable experimentalist applied herself to making new combinations, and a few months since succeeded in perfecting a cement combining all the good qualities of the white, with the additional advantage (a grand desideratum indeed!) of remaining perfectly uninjured by water thrown upon it, even when at a full red heat. If a common brick, covered with one-eighth inch of it, be thrown into the heart of a large fire, and brought to a red heat, and from the fire be thrown into a bucket of water, it will

neither crack nor fly from the surface, and when dried, will bear no mark of injury, smoke and dirt excepted. Care must be taken, in laying on the cement, that no opening to the brick be left, otherwise the brick itself will rend on meeting the water.

The advantages of a cement like this, both in domestic and trade architecture, are too obvious to require argument or demonstration. If floors and ceilings be formed of it, fire may be confined to the apartment in which it originates, instead of penetrating, as in so many deplorable cases it has recently done, both in this city and Glasgow, with the rapidity of lightning, from one storey to another, upwards and downwards, through whole ranges of building. And when extinguished, no repair will be required but that occasioned by the removal of smoke and wet ashes.

Both these cements harden and dry in so short a time, that houses or apartments done with them may be inhabited in a fortnight after the plasterers are finished. No noxious exhalation—as from common plaster—or lurking damp remains in them, to injure health or property; and this alone is an immense benefit in cases of alterations, particularly in shops. They both take paint or paper the moment they are dry. But for all unpretending apartments, or for lobbies and staircases, no colour more beautiful or appropriate than that of the gray cement itself could be desired. It is considerably cheaper than the white: but this matter we refer to the manufacturer. It is, however, one of deep importance to the public, that anything preventing the scourge of fire and of damp should be brought within the reach of those building or repairing for the masses, at such a price as to remove all excuse for not using it; and here we would remark, that the rapid and thorough drying of these cements throws a large amount of saved rent to the credit side, which should be considered as reducing the expense of it. We have included damp, along with fire, as a scourge; indeed we consider it very decidedly the severer of the two; nay, we are prepared to hold that in towns it is more the promoter of death than all other causes united—not to name the misery and discomfort it entails on life. We speak of the dirt of the habitations of the poor; but damp and dirt are indissoluble in their companionship: and how often, by the cruel Pandemonium-like window-tax, is the evil deepened and (without a pun) darkened to the industrious poor, whose very means of existence is often connected with a free access of the blessed light of heaven to the scene of daily toil!

We have already exceeded our space, or we would refer at length to the boundless variety and importance of the uses to which these cements may be applied. On our table, at this moment, are most delicately-beautiful medallions, executed in white on coloured grounds; specimens of marble, splendid in colouring and polish; and pieces of granite and other stones, rugged from the quarry, united by it with most extraordinary firmness.

THE CRETAN DAUGHTER.

THIRTY years have passed away since the events took place of which we are now about to speak; but though this period has sufficed to change the whole face of Europe, and sweep millions from their habitations in this world, it has brought little or no change to the beautiful island of Crete. Then, as now, this bright flower of the sea was under the dominion of the Turks; and the one noble but disastrous effort by which some few years since the enslaved Cretans attempted to obtain their liberty, has left not even a trace, except in the sad hearts of the widows and orphans of those who were martyrs in the cause. At the present day, therefore, the same scene may often be witnessed which presented itself to the inhabitants of Canea, the capital of Crete, some thirty years since one fine summer morning.

It was shortly after sunrise, the hour most suitable in that climate for any active business; and the bazaars, where merchandise of all sorts was displayed, were

* Mrs Marshall has given this name to her cement—it is simply the Italian word for wall-plaster.

crowded with buyers and sellers, carrying on their traffic in the true Oriental manner by silent pantomime. These consisted chiefly of Greeks and Turks; but there were also a great number of Jews and Armenians, as well as many Egyptian soldiers. A large proportion of this motley assemblage was collected in an immense quadrangle, where a peculiar species of commerce was going forward that seemed especially to interest them. This was the public sale of human beings, which took place weekly on an appointed day. The slave traders were almost all Africans; and the unhappy captives themselves seemed to have been chosen out from among the various Eastern nations, solely with a view to the price they were likely to bring in the market. Very many, however, were Cretans, brought down from the mountains by the foraging troops of the Turkish aga, who, according to a custom not more prevalent than it is now, was in the habit of sending small parties of soldiers over the island to sack and burn, if necessary, the distant villages, in order to bring him the young and healthy of the wretched inhabitants to be sold as slaves. These were usually taken on speculation by the traders, who then drew what profit they could from them.

The sale had been going on for about an hour with great animation, though in the most systematic manner. At last it came to the turn of an old villainous-looking Egyptian to produce his merchandise; and after having sold off one or two black slaves, he brought forward what he evidently considered the most valuable part of his stock. This was a young man and woman, whose dress and appearance indicated not only that they were Cretans, but that in their own village home they had enjoyed a certain superiority of rank. They were evidently husband and wife, and the helpless silent despair into which they were plunged, showed that captivity was new to them; for although all the inhabitants of the sunny isle of Crete were virtually slaves, yet of course a small proportion only are condemned to the unnatural ignominy of being bought and sold. Their bitter misfortune seemed, however, to have had a different effect on the young couple, according to their different dispositions. The thoughts of both, as they were put up for sale, doubtless reverted sadly to that dear home where the morning of their happy wedded life had dawned so brightly, but to fade into untimely night; that sunlit cottage, nestling in the bosom of the great Mount Ida, with the green vineyards all around it, from whence they drew their little wealth, and the myrtle bushes sheltering it from the mountain blasts. Yet the sharpness of their regrets told not equally on both. The countenance of the young man denoted only an utter and hopeless despondency, for he was not one of those to whom is given the fatal gift of intense feeling; and he evidently partook somewhat of that effeminacy often to be found in men amongst the luxurious nations of the East. Very different was the expression in the large dark eyes of his wife. Here was indeed the full capacity of suffering; and she was rapidly entering on the utmost extent of misery which even she could feel. There was something which lay nearer her heart than the liberty and the joy she had lost; and from this treasure, the gift of Heaven, she believed the unhallowed ruthless hands of man was about to sever her for ever. Clasped close to her breast, with all the strength of her feeble arms, she held her only child, her little fair-haired daughter, the merry glance of whose sweet blue eyes had been for the last three or four years the very sunshine of her existence; and she knew—this young mother well knew—that it is not one of the least atrocities of the vile traffic of the slave dealers, that a purchaser never will consent to take the children along with the mother, unless they have reached an age when they can be made servicable, and are no longer only an encumbrance. This her little darling would still most assuredly be considered; and she felt—for she was too utterly miserable to admit the delusion of a hope—that were she

sold, they would not scruple to tear from her that round which, by the decree of nature herself, her heart-strings were twined with a love unutterable.

The sale proceeded. A Turkish merchant of Gallipoli, after much bargaining, agreed to buy the young couple, calculating on their youth and strength, and consequent capacity for incessant labour, as the guarantee that his purchase would long be profitable to him. As usual, however, he would not consent to include the child in the agreement. The Egyptian trader, when he had stolen the young Cretan mother from her happy home, had endeavoured to separate her from the child, in order that he might rid himself and her alike of a useless burden, as he designed that she should perform the journey to the capital on foot; but she clung to her treasure with a tenacity which he could only have overcome by means of such violence as might have perilled her life; he therefore told her with a grim smile that she might burden herself as she pleased, but that he warned her he should find means to make her travel at his pace, whatever weight she might choose to carry with her. To this she offered no remonstrance; but weary, exhausted, and fainting, over hill and plain she carried her child uncomplaining—uttering not a murmur when the blows fell heavy on her, if she seemed about to sink beneath her precious burden. Now, however, the slave dealer did not require to practise even such much of forbearance; her new master might manage her as he would; but in order to perform his part of the bargain, he went up to her at once, and by main force tore from her arms the shrieking infant, whom he flung aside to perish in the street, unless some one compassionate heart existed amongst all that sordid and unfeeling crowd. No words can describe the agony that was expressed in the mother's piercing scream, as she struggled vainly in the stern grasp of her tormentors, who held her down when she would have sprung towards the spot where her little daughter lay. No words burst from her lips but those, 'My child, my child!' yet volumes would not suffice to convey to the mind the deep despair which they embodied.

Amongst the spectators was one who had witnessed the whole of these proceedings with all the horror which must fill a well-regulated and generous mind at so base a violation of laws divine and human. This was a good American missionary, who, with his wife, as good and devoted as himself, had left home, friends, and family, to aid with his best efforts the great work of the propagation of Christianity in the East. He had come to witness this revolting sale, solely in the hope that he might be of use; and he now had an opportunity of learning that such good intentions are, in this life, rarely left to his fallow, but are ever sure to find some ailment whereon to work. His warm kindly heart had been pierced to the very core by the bitter cry of that wretched mother; and now, acting on one of those noble impulses which, if oftener felt and oftener indulged in, would brighten into day the twilight gloom in which contending good and ill have clad our world, he rushed forward and lifted up the forlorn child tenderly in his arms, then advancing as near to the young mother as the Turkish servants of her new master would allow, he said to her in her own language—'Take this with you for your comfort, poor captive victim, that your child shall have a happy home, and an unwearied protector. I pledge myself before that Heaven whose mercy has sent me to you, that I will be to her not only now, but while I live, all that the parents she has lost could themselves have been.' He had no time to add more, for the Turk had made a sign, and the other slaves were dragging away their new companions; but she had understood him: there was that in the uplifted eye and earnest truthful accents of the American which inspired her involuntarily with a perfect confidence in him, stranger as he was. It is in the very nature of a mother's love to be disinterested; and though she felt that for herself existence must be altogether dark without her darling, it was yet with a look of rapturous joy

and gratitude that she rewarded the missionary, feeling that though despair was claiming her for his own, at least all was well with her beloved child. In another moment she had disappeared among the crowded streets, following her master along with the other slaves, amongst whom walked the husband, apparently stupefied with misery.

The good missionary was left standing alone in the market-place with his new possession in his arms; but he did not regret the solemn pledge he had taken on her behalf, as the poor little child nestled in his bosom, and lifted up to him the confiding glance of her innocent eye. He took her home to his wife; and this lady being accustomed prudently to temper the warmth of her husband's zeal, was somewhat startled at the extent of the duty he had so positively promised to perform. That woman, however, must belie her very nature who could resist the claims of a helpless and deserted child; and no sooner did she feel those little soft arms round her neck, than she had taken her to her heart and home as easily and willingly as her husband himself.

As soon as the heat of the day was over, the missionary went out with the intention of ascertaining the destination of the newly-purchased slaves, that he might not lose sight altogether of the parents of his little charge. But it was already too late: he was told that the Turk had embarked early in the day with all his possessions, animate and inanimate, and had set sail no one had inquired whither. All the information he could obtain was, that he was a wealthy merchant of Gallipoli, a town situated near the entrance of the Sea of Marmora, and opposite to the ancient Lampacus. He returned home, therefore, with the conviction that this poor child, so truly an orphan, though her parents lived, was indeed a gift from Heaven, with which he was to part no more.

The months and years passed swiftly on, and the little Stamata (by which name the missionary had heard her mother call her) grew and prospered under his fostering care. Shortly after she had become one of his family, he had removed from Crete to one of the Ionian islands, where he was called on to take the superintendence of the schools which had been established there by the American mission. He had not been resident in his new abode many years before he lost his wife, and it was then that he began to reap the fruits of his good action. Stamata became all to him that the most devoted and affectionate daughter could have been: she was as sweet and engaging a child as ever lived. Thoughtful, earnest, and with a mind of very unusual powers, she secured the entire regard of the good missionary; and it was his delight to instruct her, and to cultivate her fine intellect as much as he could. She was a most apt scholar, and in the theological branch of her studies especially made singular progress; he had indeed every reason to believe that she might most ably replace him in his care of the schools when old age crept upon him; and this became his cherished hope and dream. He had thought it his duty, when she came to a suitable age, to inform her of all the circumstances of his first acquaintance with her: he found, to his astonishment, that, young as she was at the time, she remembered the whole scene of her parents' ignominious sale most perfectly, even to the minutest detail; and it was very evident that it had made an impression on her so profound, that it was likely to influence her whole life. So deep and painful, indeed, was the emotion she displayed when he mentioned her father and mother, that he at once determined never to revert to the subject, trusting that the recollection of their fate might thus in time pass from her thoughts. Whether this were the case or not, as the years wore on, he never could tell, for he dared not renew the experiment, and one of the most prominent features in Stamata's character, as it ripened into maturity, was a peculiar and invincible reserve. Slight indications sometimes revealed to him that she brooded night and day over thoughts which

she never disclosed; yet as, during the lapse of several years, the name of her parents never passed her lips, he could not but hope that, like himself, she believed that in all human probability they had long since sunk under the weight of their many sorrows, and of their unceasing labour, so that they could no longer either suffer or require to hope even for better things.

Stamata was still very young, when the schools having greatly increased, it became necessary that her adopted father should have an assistant in his arduous duties. To his infinite delight, the directors of the establishment decided that he could have none better fitted for the task than the child he himself had rendered a most able and efficient coadjutor, especially as her singular talent and great instruction were well known. Elevated to this honourable position, Stamata now entered into the receipt of no inconsiderable salary; and this circumstance was the means of bringing out a new trait in her character, which caused the missionary very great uneasiness. Every cepta (the smallest Greek coin) which she could by any possibility accumulate, she hoarded up in the most systematic manner, with all the avidity of the most covetous miser. Although just at that age when young girls are naturally disposed to spend what little they have on the adornment of their person, she employed every imaginable device to spare even what was absolutely necessary for her dress, which was coarse and plain even to meanness; but what was infinitely worse, she never bestowed the smallest relief on the many objects of charity which presented themselves.

Stamata, however, whilst rapidly accumulating a large sum of money, was far more lavish of another treasure which she possessed—and this was the first warm affections of her young heart: these she had bestowed, almost before she was aware of it, on one happily well deserving of the gift. He was a young Ionian, whose father, having wasted all his substance in a ruinous speculation, had left him to find a precarious existence by acting as interpreter to any casual stranger visiting the island. But though poor and unfortunate, Petrachi was a generous, high-spirited, noble young man, and he proved himself capable of a most devoted and disinterested affection from the first moment that he saw the gentle, thoughtful Stamata. She herself, reserved as she was on some points, was too innocent and sincere to hide her silent love from the anxious eyes of her adopted father; and when the young man honestly came to confess to him his deep and passionate attachment, the worthy missionary at once gave him not only his consent, but his promise of assistance in bringing the matter to a conclusion. This could only be, however, when Stamata should herself have realised a sufficient sum for their subsistence, as Petrachi was altogether without fortune. She was destined to arrive at what was evidently the summit of her wishes much sooner than she had hoped. The directors of the schools were so much pleased with her abilities and attention to her duties, that they decided on doubling her salary; and at the expiry of little more than a year from the period of Petrachi's avowal of his sentiments, she found herself in possession of what in that country was considered quite a small fortune. The young man had been repeatedly urging her adopted father to release him from his promise of silence on the subject nearest his heart; and when this occurred, he at last obtained his leave to go and formally ask her in marriage, as the good missionary thought that now the sooner the matter was concluded the better. Petrachi left him joyously to go and seek Stamata, full of hope, which the old man thought most justly founded; but his amazement was very great when, a short time after, the young man burst into his room in a state of utter despair, and besought him to go and remonstrate with Stamata, who, he declared, had positively refused to marry him, even while she honestly confessed that she loved him very dearly. The missionary was exceedingly astonished and perplexed at this intelligence, for

nothing could have been more evident than the warm attachment with which the young man had certainly inspired her; and he could hardly credit the idea that his child had grown capricious or inconstant.

An explanation of this incomprehensible circumstance soon ensued. Stamata informed her foster-father that so far from having ever forgotten her parents, or allowed time to deaden her feelings towards them, she had, on the contrary, lived month after month, and year after year, in one only and fondly-cherished hope; which was, that she might herself be the means of restoring them to liberty; and this project had been her dream by night, and her sole thought by day. She had ascertained from a Turk, resident in the island, what was the price usually asked for a male and female slave; and to earn this sum she had toiled, and laboured, and deprived herself not only of every personal gratification, but of that sweetest of earth's joys—the relief of the suffering—in order to accumulate the necessary funds for this purpose, more than any other just and holy. Silently, and taking counsel from no one, she had matured her plans with a strange mixture of reckless courage and shrewdness, and it was evident that she would follow them up in spite of all obstacles. She appeared never to have entertained the idea that it was possible her parents might no longer require her care: it was her conviction that they yet lived, and on this she acted. She had carefully concealed her hopes and wishes from the missionary, because she knew his kind heart too well not to be aware that had he known how much her whole happiness depended on her success, he would at once have drawn on his own little store to furnish the sum she required; and from such an additional sacrifice on his part her generosity revolted. He had indeed done enough for her already—far more than she ever could repay; and it was from her only that her parents ought to claim the self-devotedness and unwearied exertion which it would require to procure their liberty. That she loved Petrachi, she made no attempt to conceal; but from the first she had been so determined to devote herself and her fortune to her one pious effort, that she had taught herself to hope that his silence had proceeded from indifference; and now, though it pierced her to the heart to find that he also was doomed to suffer by her honourable resolution, yet when the missionary called him in to take a part in the consultation, she would hold out to him no hope that his wish might ever be fulfilled, for it would take all her little portion to purchase her parents' liberty, and she could not bid him wait, wasting his youth and life, till she should have time to amass another. Petrachi's eyes told her he would wait whether she wished it or not; and his look of warm affection seemed to render her desirous of hurrying on to a more complete detail of her plans.

What she had already told them, she said, was merely a retrospect of the thoughts that had engrossed her whilst patiently labouring to earn the money requisite; but now the time was come for her to act, and one cause for her bitter tears had been the consciousness that she ought, without delay, to abandon all that was most dear to her on earth, in order to prosecute her scheme, now ripe for execution. Fortunately, she said, a family with whom they were intimate were about to set sail from the island for Constantinople, and they had agreed to take her so far as Gallipoli, where, if her parents lived, it was likely they still were. If they should, however, be elsewhere, she would follow them; and she had made every preparation for her expedition, having already sewed the greater part of her precious money into the crown of her red fey (or cap), in order to secure it more completely. Petrachi and the missionary saw well that it would be vain to attempt to dissuade her from the cherished project of a lifetime; but they both remonstrated loudly against her going alone on this perilous expedition. Stamata, however, displayed a degree of firmness, and even of obstinacy on this point, which they could only attribute to some secret motive;

nor did she deny, when they questioned her, that she had indeed a private reason for refusing to be accompanied by her friends; besides, she showed them, with her usual prudence, that it would have been impossible, at all events, as Petrachi could not have been a suitable escort; and the welfare of the whole party perhaps depended on the old missionary continuing to conduct the schools in her absence, lest they fell into other hands. Finally, after a long and painful conversation, the old man decided that she was to follow her own arrangements; for he was one of those who would always prefer to see the beings he loved perish in the performance of a good action, than live even prosperously in the neglect of duty.

The family under whose escort she was to quit her dear home and dearer friends were to set sail in a very few days, and the old missionary did not regret that it was so; for although he saw that Stamata was perfectly firm in her resolve, it was evident at the same time that she suffered most deeply, and also that she appeared to consider this separation as one likely to be final, which seemed to him little likely. Had he known the secret resolution which caused her so to think, and had indeed seen the reason of her refusing to allow any one to accompany her, he would assuredly have died before he allowed her to leave him. She had determined that if the power of gold should fail, as sometimes happened, or if the sum she possessed were too small to restore her father and mother to the freedom which was their birthright, she would adopt a means she was sure would not fail to liberate one at least, by offering herself as working slave in their stead. Such a resolution as this was no less dreadful to Stamata than it would have been to a free-born British girl; for it must be remembered that not only was her mind highly cultivated, but she had been educated by an American, who had not failed to teach her all his own liberal ideas; although along with them he had also given her those high and noble principles which made her prepare so calmly to undertake the horrors and the ignominy of slavery for the sake of those who had been to her, indeed, parents but in name.

The day of separation arrived. Followed by the prayers and tears of those to whom she was so dear, the devoted daughter left her happy home; but even those who loved her best could scarcely comprehend the violence of her grief, for they knew not to what an extent she meant to carry her sacrifice. Her most bitter trial was over at last, however: she saw the figures of the good old missionary and Petrachi, who had promised to be to him a son, receding in the distance; and soon she could see them no more, remaining all alone with the dread that she never might see them again. Amongst the passengers who were sailing with her, Stamata found, to her great joy, that there was a Greek resident habitually at Gallipoli, whither he was now going, along with his mother, a very shrewd and pleasant-looking old woman. With these people Stamata eagerly made acquaintance, thinking it very probable that they might know something of the Turk who had bought her parents, and whose name she well remembered. He was not mistaken; they knew him perfectly, as he was the most influential merchant in the town; and what was still better, the old Greek lady had often been in his harem, where she had much traffic with the principal wife in the sale of henna, black dyes for the eyebrows, and so on. She was happily quite a person to become acquainted with the most minute details of every one's establishment, and she knew the names of every individual slave. That Stamata's father was amongst them she positively affirmed; for she said she even recollected well the circumstances of his purchase, from the ill-humour manifested by the Turk when he found his bargain likely to prove unprofitable, as the poor mother, bereaved of her child, had drooped and died within a few months. At this intelligence Stamata's grief was excessive; for it was the recollection of her mother's

parting scream that had so steeled her heart against all the joys of life, which for her sake she had sacrificed. But when the old woman proceeded to tell her that the Turk had vowed to make the survivor work for both, and that the consequent toil and torture which her wretched father had endured for years was not to be told, she at once subdued her sorrow for her she had lost, in order to secure the freedom of him who yet remained. Stamata, with all her talent, was guileless and unsuspecting as a child, and she at once opened her heart to her new acquaintances, telling them all her hopes and plans, and even the precise sum which she carried with her for the attainment of her object. At this last piece of intelligence the eyes of mother and son sparkled in a manner that would have put her on her guard, had she known a little more of the world, or even of those countries in which she had resided all her life; for she would then have known that in the East the most worthless characters are sure to be found amongst those persons who, like her new Greek friends, abandon their own land and national peculiarities for those of any country where it may be their interest to reside. Indeed one a little more acquainted with evil in its many shapes than poor Stamata, would have found reason to doubt the sincerity of her newly-made acquaintances, from the very warmth and vehemence of the protestations of friendship and interest with which they now assailed her. But she judged others by herself; and feeling she would have done precisely the same had the case been reversed, she felt no surprise when they invited her, with every appearance of disinterested kindness, to come to their house with them on arriving at Gallipoli, till such time as she could obtain an entrance into the palace of the wealthy merchant. She thankfully accepted this offer, as they promised, without any difficulty, to procure for her an opportunity of entering into the desired negotiation, probably with the wife of the Turk, whom the old lady knew so well, as he himself they believed to be absent on an expedition of some importance.

After a most prosperous voyage, Stamata landed at Gallipoli with her friends, and proceeded at once to their house. Her impatience was now so great, that the old Greek lady could not refuse to gratify her by going at once to visit the harem of the Turk, and prepare the way for Stamata's own negotiation. She was absent some hours, but she returned with the most satisfactory intelligence. She had seen Stamata's father, who had heard that there was a chance of his being restored to freedom with a frantic joy which seemed to have excluded all other sentiment, even the natural pleasure of a parent in recovering a child lost to him for so many years. She had also seen the principal lady of the harem, who had full authority, in the absence of the lord and master, to act in such matters as these, and from whom she had obtained the positive promise that she would accept the sum Stamata had to offer in exchange for her father's liberty. The old woman had also arranged that the interview was to take place next day at an early hour. After having been thus assured that her long-nourished hope was so soon to be fulfilled, Stamata enjoyed the first good night's rest she had known for a considerable period; and although she shared the room of her hostess, she slept too soundly to be aware of any movement which might have taken place there during the night.

The next morning the Cretan daughter proceeded alone to the dwelling of the Turk; and now, when she seemed at the summit of her wishes, it was decreed that her trials should begin. The first bitter disappointment she experienced was caused by her father. On the mind of this man, never remarkable for any very fine qualities, slavery had worked like a corroding poison; self was his idol, and the only boon he craved for that self was his restoration to liberty. Years of torture and captivity had effaced from his soul all other thoughts and feelings, and this one frantic desire alone engrossed him. When he came forward to meet his

generous daughter, a wretched, decrepit, abject old man, he uttered not one word of joy that he beheld her again, or of thanks for her noble sacrifice; but he called out to her in a feeble, querulous tone, to intreat that she would make no delay in procuring his liberty, by paying down the necessary sum for his ransom, as surely he had waited long enough. It must not be denied that Stamata felt a pang of regret at this destruction of many bright day-dreams, in which she had pictured to herself her first interview with her father; but happily she had commenced this undertaking from a high sense of duty alone, and the duty remained as urgent as ever, however little worthy her surviving parent might be of her tender care. She followed him into the presence of the merchant's wife, and was told by her that immediately on the receipt of the ransom, both father and daughter should be at liberty to depart. The old man's eyes glistened at the word; and Stamata, hastily taking off her fey, almost tore out the lining in her eagerness to produce the money. What was her consternation on finding that it was gone, and a few stones substituted in its place, that she might not miss the weight when wearing the cap! For one moment, at this irreparable misfortune, Stamata almost felt her strong trust in Heaven abandon her; she did not, in her guilelessness, dream of suspecting her hostess of the night before, but she believed that, when asleep on board the vessel, it must have been stolen from her, so as to deprive her of all hope of recovering the sum she had so toiled to earn. To add to her misery, the father, as he saw the cup of joy dashed from his lips, became half maddened with the revulsion of feeling, and uttered something very like a curse on his unhappy daughter. The blood rushed back to her heart as she heard it; but mastering her anguish, she turned to the merchant's wife, and made one more attempt to perform her noble duty. She offered herself as working* slave in exchange for her father. The offer was accepted: the strong healthy girl was a good substitute for the decrepit old man; and he was told that he was free, and might leave the establishment at once, since his daughter remained in his stead. At this announcement he uttered a wild cry of rapture, and flew towards the door, as though he could not endure one moment more the captivity he had borne for years; and not by one word or look did he sweeten to Stamata the bitter portion now assigned to her; but she stopped him in his flight—it was only, however, to give him a few ornaments she had received from her beloved friends, now more than ever lost, and by the sale of which she intended he should pay his passage from Gallipoli. One only request she made to him in return for all she had sacrificed: she implored of him to go to her adopted (and far dearer) father, in order to inform him of her fate; and having obtained his promise that he would do so, she saw him depart, and heard the prison doors (for they were such to her) close after him, to hold her captive there for ever.

Stamata entered at once, silent and uncomplaining, on her new and laborious mode of living. In all her ideas and feelings she was as much of a Christian and a European as one who had never left Great Britain could have been; it may therefore be imagined what it was to her to become the slave of Turkish slaves, which was, in fact, the position she now held, and that without a hope of any change; for she felt by no means sure that her unworthy father would even fulfil his promise of communicating her position to her friends. In this she was mistaken: he was not altogether dead to natural feeling, and he faithfully performed her commission, for which he was rewarded, by being received into the missionary's house. The American, as well as Petrachi, would have been in positive despair at the intelligence he brought, had not Providence meanwhile been raising up friends for the Cretan daughter in her hour of need.

* There is a distinction between the slaves so called and those of the harem.

Amongst the strangers who had lately visited the beautiful island where the missionary dwelt, was one of his own countrymen, a man of enormous wealth, and, what is rather more rare, a man who rejoiced in his wealth as a means of doing good. He had been deeply interested in the story of Stamata, and had communicated to her adopted father and to Petrachi his intention of restoring to her the portion she had so dutifully sacrificed, in order to enable the young couple at once to marry and settle for life. When the Cretan slave, therefore, brought the news of his noble daughter's miserable fate, this good rich man thanked Heaven that he had visited the island just at this period. Not an hour elapsed before he was on his way to Gallipoli; there he offered the merchant's wife any sum she pleased to name for her new slave Stamata; and having joyfully paid the very exorbitant price she demanded, he brought the noble girl back to her beloved home, there to reap the reward of her dutiful conduct. His good works did not stop here: he settled on her a sum quite sufficient to enable her to marry Petrachi, and lead henceforward a most happy life—ever tending and caring for her real father with all due consideration, whilst she was at liberty to cherish with a far deeper affection the good old missionary, who had been at least the very life of her mind and heart.

NATIONAL EDUCATION—ITS OBSTRUCTORS.

It is strange how long a point of polity may be established with entire success in one country, while in another the very first principles on which it is based may be the subject of fierce controversy, as if there were no voice to be had from experience in the matter. A system of education in which the secular part is provided for in schools where all sects may meet, while the clergy are permitted to impart religious instruction at certain convenient times apart, has been long established in various countries—as Prussia, Holland, and the United States—and its results are most satisfactory. Yet when this plan is proposed in Britain, it meets with such a storm of objections, as only might be expected to arise against some altogether unheard-of novelty. The chief of these objections it is easy to trace to the anxiety of other institutions about their own interests. At least it appears to us that any real fears on the score of religion may well be quieted, when a body so respectable as the United Presbyterian Church of Scotland sanctions the plan without reservation, professing that, while 'it is not inconsistent with the legitimate functions of civil government to provide for the secular instruction of the subject,' the religious department 'belongs exclusively to the parent and the church.' Perhaps much of the struggling towards a different point is only attributable to the excited state into which the community has been thrown by the political fervours of the last few years. It would certainly, however, be a great pity if, from whatever cause, or with whatever motive, our movements for improved means of education were to land it only more entirely than it has hitherto been in the hands of persons who regard it primarily as a means of maintaining or improving their own place as churches or denominations. This were to make the heart and soul of the country, and all their future tendencies, the subject of a mere scramble for the human selfishness involved in propagandism. It might not much cramp the development of the national intellect, for here we think the press gives good assurance that progress is irresistible; but it could not fail to postpone the day when the best secular effects of Christianity, in the binding of men together as brothers and equals, were to be realised—thus inconceivably damaging the very cause it was professedly meant to advance. At present, we have fully enough of division of one kind and another—from that which wealth produces, to that resting in diversity of opinion on religion and its externals. Who could

undertake to estimate the probable increase of mutually-repelling antipathies, if children were all to be trained under a system which should rank them up in visible separation from each other, and teach each little group to regard with aversion all that belonged to the rest? It seems to us as if, in such a state of things, added to the jealousies of employed towards employers, of industry against rank, and rank against industry, we should be involved in something not greatly different from, though not bearing the name of, civil war.

Such a danger is ridiculous as well as deplorable, when we consider that the whole question under dispute is merely one of arrangement of time and place. It is a mere matter of detail as to school hours. What difference there can be between the imparting of certain ideas, or the inculcation of certain feelings to children all at once, in one room, and doing this in a room set apart for the purpose, we are totally unable to imagine. And how this should appear so objectionable, when it is only done for the sake of impartiality towards various sects all standing on an equality in their right each to entertain its own opinions, is equally inconceivable to us.

Another, but much less obstructive difficulty, lies in the opinion of a small but active sect, which maintains that the state has no title to interfere with education. It is true that a government with opposite interests to the people would be seriously mischievous in exercising arbitrary authority over education. This, however, is to misstate the present case. The system of national education generally contemplated, requires only legislative shape and sanction to be given to a system which shall be conducted and paid for by the people themselves. A right national system would be as much a matter of popular administration as our municipal or police bodies. Such is the plan embraced by the Lancashire Public School Association, who are about to come before parliament for an act to realise their views in that section of England. The part which our government is at present taking in education is unfortunately of a different character—a paltering with the contending selfishness of sects, to not one of which it can afford to say what it really thinks. But that is not an example of national education—it is only one of the miserable make-shifts appropriate to a time of transition.

The time seems come, or coming, when serious efforts would need to be made in order to prevent bad systems from becoming inveterate, if not to cause a right one to be established. We have done what little we can to attract attention to the subject, and to put it in what we think a right point of view. Let us hope soon to see some energetic movements on the part of those who are favourable simply to public and human, as distinguished from sectarian interests. It will be a shame to burn for ever, if they let judgment go against them by default.

CHICKEN FACTORIES.

SOME years ago we described a process for hatching chickens which we saw in operation in London, and since that period, other plans for the same purpose have been attempted with less or more success. It seems to be one of those things on which many ingenious minds have employed themselves from very early times; the transforming quantities of eggs—a comparatively cheap article—into fine marketable poultry on a great wholesale principle, being invested with that degree of possibility which recommends it to the thoughtful and enterprising.

Most of the plans for artificial chicken-production have somehow or other failed, at least to the extent of being generally appreciated. The public have been for a short time entertained with accounts of their practicability, but they have never become part and parcel of our economy. Hens continue, as they have done since the beginning of the world, to be the hatchers of their own eggs, and nurses of their own chicks. Steam, which now-a-days does such wonders, has not yet been

able to assume the function of the decent motherly barn-door fowl. The latest enthusiast in artificial hatching is W. J. Cantelo; and in a pamphlet from the pen of this gentleman now lying before us, we are assured that he has at length discovered the cause of the want of success in previous artists, and is able to furnish the grand desiderata—artificial hatchers to any extent, and of unvarying accuracy.

According to Mr Cantelo's theory, all previous processes have erred in not following nature. Eggs have been put into ovens at a certain heat; but although this will not invariably fail, it is not what experience points out as proper. Nature does not employ ovens, so as to heat the eggs all round; it hatches by *top contact* alone—the warm feathery breast of the mother pressing gently on the eggs placed beneath her in the nest. 'All have overlooked the meaning of the word *incubate*—"to sit upon"—and the necessity for carrying out in their experiments the principle involved in that expression.' Avoiding the error here mentioned, Mr Cantelo has invented an apparatus called the 'Patent Hydro-Incubator.' This machine, which resembles a cupboard, is furnished with trays or drawers, into which the eggs are put. Gently pressing on the top of each tray of eggs, lies a bag of impermeable cloth filled with water, which, by means of connecting tubes with a cistern and boiler, is kept at the desired temperature (106 degrees Fahrenheit). Air is allowed to circulate around and through the trays, by spaces left for the purpose. 'The fowl naturally leaves her nest every day, in search of food, for twenty or thirty minutes; this we must imitate also, as the cold has the effect of causing the air in the vacancy of the egg to contract, whereby a fresh supply is drawn in for the nourishment of the germ. The eggs must be turned or moved about twice every day—that is, at intervals of twelve hours—which prevents the adhesion of any part of the egg to the shell, and also gives the small blood-vessels a better opportunity to spread around the surface of the egg in search of nourishment for the germ. This is effected by nature; for as the fowl leaves her nest, or returns to it, and also when changing her position upon her nest, she unavoidably disturbs the eggs.' Such is Mr Cantelo's explanation, which we believe to be more ingenious than correct. It is certain that some hens never leave their nest during the period of incubation, but require to be fed where they sit; and if so, cooling the eggs for a length of time daily seems as unnecessary as the theory respecting it. Be this as it may, the eggs in the incubator are enjoined to be drawn out and turned every twelve hours; and once every day, after the first two days, they are left out until nearly cold, say twenty or thirty minutes.

After describing how the eggs should be occasionally examined, in order to remove the 'suspected,' we are told that 'the hatch should begin pecking at the expiration of nineteen days and a half; thus, supposing a number of eggs to be put to incubate on Thursday, at five p.m., on the Wednesday morning previous to the expiration of three weeks, I should expect many to have pecked, and some even to begin to come out. Those which have not hatched of their own accord, on the Thursday morning, may be reckoned (provided the heat has been kept up to the right point) as good for nothing, even if taken out of the shell; that is to say, those which are last are worth least. If the eggs hatch sooner than this, lower the heat; if later, raise it: as you can tell only *nearly* the heat of the incubator by placing a thermometer under it, lower or raise your heat only one degree at a time. You must be very near the correct point when the thermometer placed in the tank indicates 110 degrees, as then your incubator will not be far from 106 degrees.' What follows is physiologically curious:—'Stale eggs often produce ill-formed feet or legs, and the same effect is produced by over-hatching, and even by the new process occasionally, when the water is kept at much too low a temperature; but with a proper heat and fair eggs, a deformity

of the chicken will scarcely ever be found under the Cantelonian system. In all cases of deformity, it is most economical and humane to destroy the chicken. If a *cross-bill*, it always grows worse, and will finish by not being able to eat at all; and a *stiff-leg* is pulled about, and made miserable by the other chickens; and inasmuch as a deformed chicken would not have left the nest of the mother, it is not worth while to attempt to do better artificially. I have hatched a duck with three legs—that is, an imperfect and extraordinary one proceeding from below the root of the tail. This lived and did well, as it had two good legs to stand upon; but the third one was often pulled at by the others.' Being at length hatched, and fairly on their legs, the chicks 'may be gathered in a warm place over the incubator, or tank, in order, when dry, to be placed under the mother. This consists of a number of warm pipes, about an inch and a quarter in diameter, and about the same distance apart, resting on supports about five inches from the floor. Beneath these pipes is a sliding board, which is always at such a height as to allow the backs of the chickens to touch the pipes, and which is gradually lowered as they increase in size. This board is removed and cleaned every day, or replaced by another, which had served the day before, and had been cleaned and aired during the twenty-four hours. Above the pipes (about an inch and a half) is another board, similar to that below, from which depends a curtain, in front of the mother. This board serves the double purpose of economising the warmth, and preventing the chickens from dirtying each other, as they are very fond of jumping up on the mother. The pipes above described proceed from a small tank of warm water, the heat being kept at about 104 or 105 degrees. The young chickens having been once placed beneath this mother, will only leave it to eat, drink, and for exercise, and will return to it of their own accord. At four weeks old, the chickens must be removed from the mother, and placed to roost on small perches, three feet and a half from the ground, in a warm place; and every evening, when they go in, they must be put up to roost, as you have no fowl to entice them. In a few evenings they will go up of their own accord, and at six weeks old, they may be put up in a place to roost permanently. Too great crowding of the chickens must be avoided at all times, as this of itself will create disease. Should any appear, such as sneezing, or watery or sore eyes, those affected must be picked out with the greatest care, and killed.' The chickens should have a piece of dry ground for exercise, and be fed on seeds, grain, grass, worms, or a little chopped meat. 'When very young, or during bad weather, they must be fed in-doors.'

The 'Patent Hydro-Incubator' is of different sizes, from one at twenty guineas, which will hatch 100 eggs, to one for 1000 eggs. 'It is not pretended that the patent incubator will hatch and bring up every egg to a fowl. From twelve to thirty per cent., after great experience, has been found to be the discount. A one-tray machine will enable the party who properly attends to it to produce, on the average, 75 birds to a hatch, and 18 of these in the year, being 1350 fowls. A very different result, indeed, to a hen, which sits but twice in the twelve months, and does not rear up above eight chickens at a hatch. A two-tray incubator and one mother will produce 2700 a year; and so on in proportion—a thousand-egg machine being capable of producing 13,500 full-grown fowls per annum. There is nothing in the principle to prevent millions of eggs being hatched eighteen times in a year by one machine. Hens generally lay eggs after being six months old, but the Cantelonian system does not anticipate keeping a tenth of the poultry for laying stock, so that the quantity and profits arising from eggs are not here taken into account. To feed up an ox to twelve hundred pounds weight usually takes five years; to feed the same weight of poultry can be accomplished in ninety-six days, at less than half the cost for food. This makes the return

quicker, and a small capital employed in the Cantelonian poultry business to do wonders.*

We have followed Mr Cantelo to the end of his description, as it was proper to do, considering the interest which is attached to the subject. That his plan is one of the most feasible yet presented, there can be little doubt. We have no fault to find with his mechanical ingenuity. His incubator will hatch chickens by the million, and the cost of doing so will be comparatively a trifle. If nothing else were wanted but hatchers, hens would never more be heard to cluck, and all the world would grow fat on poultry. The misfortune is, that Mr Cantelo, like his predecessors, has not invented a patent process of feeding as well as hatching. It is easy to bring the chick into the world; but the question is, how we are to find it in food when it gets there? Our author speaks of hens generally laying at six months old; whereas they rarely lay till they have reached nine or ten months, and then their eggs are very small. At ninety-six days old, as we understand, chickens are to be ready for market; had Mr Cantelo said six months, he would have been more correct, for fowls do not fatten till they have done growing. The whole difficulty, therefore, resolves itself into a question of economy. Would it be possible to feed fowls on a great wholesale principle with bought food, for six months, so as 'to pay?' We are pretty sure it would not. Fowls cannot be fed by the hundred or the thousand any more than by the dozen, with any prospect of remuneration, unless the food is got for little or nothing. Some housewives, in fits of thrift, fall into a frenzy about keeping fowls: they are to have such delicious new-laid eggs every morning to breakfast, and such tender well-fed fowls for dinner, and all at such a mere nothing of expense! What is the result? Each egg costs at least sixpence, and every fowl five shillings or more! On this account we fear that, after all, mankind must just leave chicken production to those farmers' wives who are provided with barn-yards, or those cottagers who are not above allowing their fowls to pick up food from the doorways of their neighbours; and to such, incubators on a small scale can alone be of any value. Fowls, in short, can be reared advantageously only on *scouts*, and where there is a run, free in every sense of the word. If we are wrong in this assumption, which seems to us borne out by all ordinary experience, we hope Mr Cantelo, in the next edition of his work, will prove it by facts that cannot admit of controversy. Until he does so, we are constrained to believe that the notion of 'chicken factories,' however specious, must take its appropriate place among ingenious but impracticable projects.

MOROCCO.

Few persons in Europe are aware of the extraordinary policy of the emperors of Morocco, and few therefore were prepared for the solid support received by the Sultan Abd-er-Rahman from his subjects when attacked by so formidable an enemy as Abd-el-Kader had proved himself, by his religious and military prestige, as much as by his unbounded activity and energy.

The policy, however, which has made the fortune of the Edrisite dynasty, has at all times been a very simple one—namely, with foreign powers, no relations, complete isolation; and at home, *alliance with all the great families of the kingdom*. This double line of conduct explains the existence and the strength (if 'union is strength') of the empire of Morocco. Let us enter more fully into the particulars of this twofold system,

* We shall be saved much trouble in answering inquiries, by stating that orders for incubators may be directed to Samuel Gant, 19 Tottenham Court Road, London, or Mr Cantelo, at his temporary establishment, Chiswick. All necessary information, including the pamphlet referred to, we presume, may be had from either of these parties.

the originality of which will not fail to surprise those of our readers who may not be familiar with the ideas and principles of Oriental monarchies.

Morocco, in its geographical position, stands almost isolated. It is bounded on the west by the Atlantic, on the north by the Mediterranean, on the east by Algeria, which, up to the period of the French conquest, seventeen years ago, counted as nothing; and on the south by the Desert, and different tribes who obey no form of government. It was not difficult, therefore, for the founders and successors of the dynasty of Morocco to enclose themselves in a moral manner within a species of insurmountable barrier—that is to say, to have no relation with foreign powers. This they have done. No commerce, no diplomacy. They have imprisoned themselves in their own country; they have lived, and made their subjects live, in a perpetual enclosure, the country sufficing, by its own resources, for the few wants of its inhabitants. What has been the result of this singular policy? That this monarchy has had to engage in no foreign wars, and thus has been enabled to consolidate itself without fear of any dangerous foe.

Being unapproachable by enemies from without, they have turned their thoughts to avoiding hostility in their own territories, and the following is the plan they have adopted for centuries:—

Since the foundation of the dynasty, every reigning monarch has taken a wife from every important family of the country. Any of those who have reigned twenty or thirty years, like the two last sovereigns, Molei-Sleinau and Molei-Abd-er-Rahman, have numbered two or three thousand wives from the great families alone. At the present moment, Abd-er-Rahman has no less than seven hundred lawful consorts—namely, two hundred at Morocco, two hundred at Mecknez, and three hundred at Fez. It is to this multitude of ladies, whose support is ruinous, that the low state of the imperial treasury must in a great measure be attributed. Let it not be imagined that these are unhappy concubines, kidnapped by the eunuchs for the seraglio; they are seven hundred daughters of the great families of the empire, who wait for and desire a fruitful marriage, to return then to their paternal home, with a young cherif, son of the sultan! The result of this matrimonomania is, that the emperors, when they reach the age of sixty, like the Abd-er-Rahman, can number hundreds of male children fit to carry arms, thousands of grandsons, and thousands of nephews and grandnephews. If you unite this little army, which derives its blood, its life, from one single source—the fathers-in-law, brothers-in-law, the cousins to the sixth degree inclusively—you will arrive at the strange but positive conclusion, that of eight millions of subjects, one million of individuals belong by the strongest ties to the reigning dynasty.

This may seem monstrous, but it is nevertheless the exact truth. There are whole towns and districts whose inhabitants are offshoots of the imperial family. Thus all the Chourfas of Taflet are cousins, in various degrees, of the emperor. We can mention a fact which confirms, in an undeniable manner, all we have now stated. When General Delarue was about to define the boundaries of the eastern part of Morocco, he ceded a portion of the Ouled-Sidi-Cheikh people to the emperor. Sidi-Homza, chief (sheikh) of this tribe, solicited Abd-er-Rahman to admit one of his daughters into his harem, as a pledge of his faithful alliance with his new master.

But the imperial policy does not stop here. All those with whom the emperor, from peculiar considerations, cannot form connections by ties of blood, such as Moors, Jews, and Christians, if they be of any weight, he chains to his chariot by the link of commerce, of which he reserves to himself the exclusive monopoly. He not only gives to some the privilege of buying and selling such and such an article in such and such a port, but he constitutes himself their banker, and lends them the money necessary for their trade. Some of these loans have amounted to L.80,000. When the Prince de Joinville

bombarded Mogador, he was told that the merchants of that place owed £800,000 to the emperor.

Here, then, is a man who holds in his hands, either by relationship or by interest, almost all the chief resources of his kingdom. His patronage and his strength are increased by the prestige of holiness which he derives from his titles of 'Lineal descendant of the Prophet,' and the 'Head of Islamism in the West.' At the hour of need, he could also count on the valuable assistance of the order of *Moulet-Tateb*, a religious association, as powerful as it is numerous, and whose chief, being invested with the privilege of sanctioning the nomination of the emperors, is necessarily, from his position, devoted to the existing dynasty.

THE REGISTRAR-GENERAL ON INFLUENZA.

THE last quarter of 1847 was so painfully remarkable for the mortality from epidemic diseases, that a brief summary of the facts may be worthy of general circulation. According to the Report of the Registrar-General, just published, the number of deaths for the three months ending in December was 57,925, being 11,376 over the average, as computed from previous years. It must be borne in mind that the returns are not for all England, but from 117 districts only, comprising a population of about seven millions. Taking the December quarters of the last three years—in 1845, the deaths were 39,291; in 1846, 53,093; and 1847, as above stated.

A slight increase in the mortality was noted in the returns of the June quarter, 1846; the mortality in the following hot summer, when the potato crop failed, was excessive; *cholera* and *diarrhoea* were epidemic. In the autumn of 1846, as well as the winter and spring quarters of 1847, the mortality was still higher; scurvy prevailed in the beginning of the year, but in the summer the public health appeared to be slightly improved. Epidemics of typhus and influenza, however, set in, and made the mortality in the last quarter of 1847 higher than in any quarter of any year since the new system of registration commenced. . . . The deaths in the year 1845 were 166,000; in 1847, two hundred and fifteen thousand. The excess in 1847 is forty-nine thousand! or not less than 35,000 over the corrected average of 1839-45.

The deaths in London for the December quarters of the three years 1845-46-47, were 11,838, 13,221, and 18,553; the increase in the last instance being as marked as in the general results. It has been shown that if the chance of dying in the country be set down as 2, it will be 3 in London; and in case of epidemics, it will be greatly increased. Dearthness of provisions, and extraordinary meteoric influences, are put forward as immediately exciting causes. Thus we read that 'on Tuesday, November 26, there was a remarkable darkness; the wind changed to north-west, and amidst various changes, still blew from the north over Greenwich at the rate of 160 and 250 miles a day. The mean temperature of the air suddenly fell from 11 degrees above, to 10 degrees below the average: on Monday it was 54 degrees, on Friday 32 degrees: the air on Friday night was 27 degrees—the earth was frozen: the wind was calm three days, and on Saturday evening a dense fog lay over the Thames and London for the space of five hours. No electricity stirred in the air during the week: all was still, as if nature held her breath at the sight of the destroyer come forth to sacrifice her children. . . . Influenza was epidemic. On the first week of December two thousand four hundred and fifty-four persons died—1141 were males, 1313 females; 1012 children, 712 in the prime of life, 730 of the age of sixty and upwards. On the week following, two thousand four hundred and sixteen persons died—1175 males, 1241 females; 702 of the age of sixty and upwards. . . . Altogether, the epidemic carried off more than 5000 souls over and above the mortality of the season. The epidemic attained the greatest intensity in the second week of its course; raged with nearly

equal violence through the *third* week; declined in the *fourth*, and then partly subsided; but the temperature falling, the mortality remained high not only through December, but through the month of January.'

The facts here exhibited have a prospective as well as present interest: it is a step towards determining the mode by which contagion is diffused by means of the atmosphere—a subject on which the learned are as yet altogether in the dark, the analysis hitherto made having failed to detect any difference between the purest air from the top of a mountain, and that from the pestilential courts of a crowded city. Still the fact appears to be certain, that the spread and progress of disease is mainly dependent on the state of the atmosphere. The preponderance of female deaths is accounted for by the fact, that there are always more females than males living in London, particularly after the age of fifty-five. 'Influenza attacked those labouring under all sorts of diseases, as well as the healthy. The vital force was extinguished in old age and chronic diseases. The poison, permeating the whole system, fastens chiefly on the mucous membrane lining the sinuses of the face and head, and the air-tubes of the lungs.'

In the Metropolis, as well as in the country generally, certain districts were more severely affected than others. In Edinburgh, 'influenza suddenly attacked great masses of the population twice during the course of November: first on the 18th, and again on the 28th day of the month. It appeared, in both cases, during keen frost, and an excessively damp, thick fog, which came on rather suddenly after a few days of very mild weather.' London, it appears, was visited before Paris; in the latter city, nearly one-half of the population was laid up with the disease during the first week of December. In Madrid, 50,000 persons were attacked. In Constantinople, the disease prevailed in August and September, and has been succeeded by a species of cholera. When the epidemic broke out in Europe in 1782, it was four months travelling from England to Spain; on the present occasion, its appearance has been almost simultaneous in different countries. No information has yet been received of its progress in Italy, Germany, or Russia.

Appended to the Report are brief statements respecting the influenza epidemics that have appeared in this country since 1728. The temperature and weather in 1733 seemed to have been very similar to that of the last three months of 1847; and according to the meteorological records, the next analogous season was in 1806; the epithet 'extraordinary' is not therefore misapplied to that just gone by. 'Extreme cold only,' we are told, 'never raises the weekly mortality in London above 1500; extreme heat still less; intermediate changes affect the mortality but slightly in ordinary circumstances. . . . When once generated, the disease spreads through the air. The great epidemics generally travel from Russia over Germany, Denmark, Sweden, England, France, Italy, Spain, in from three to six months; and then reach America. Influenza is often associated with other epidemics. It appears to have preceded or accompanied the plague, in the Black Death of the fourteenth century; it preceded the great Plague of London, 1665; it followed epidemic typhus in London, 1803; preceded it in 1837; occurred in the midst of typhus epidemic of 1847; preceded and followed the epidemic cholera in 1831-2-3.

The English physicians of the eighteenth century agreed in pronouncing influenza *contagious*. By this they did not mean that it was propagated by contact; but that it was introduced into cities, institutions, and houses in England by persons actually affected by the disease. This notion is, however, too exclusive: the word "contagion," applied to influenza or cholera is apt to mislead, and to have practically a bad effect. When people ask if a disease is contagious, they generally mean, "Are we likely to have influenza or cholera, if we touch or go near persons labouring under those

disease?" Now, if the matter of contagion is very diffusible, and is distributed equally through the room, the house, the street, the city in which a patient is lodged, no one living in the house, street, or city, is much more likely to be infected if he approach the sufferer, than if he remain in absolute solitude, shut up like the grocer of Wood Street in the Plague. The matters which excite influenza and cholera are evidently highly diffusible: in a few days influenza spread all over London; it met you everywhere: nobody, therefore, has attempted to show that medical men, nurses, or others in attendance on the sick, suffered more than other people. If such should ever be the case, either in the influenza or cholera epidemics, it will be in rare circumstances, and should never deter the most timid from discharging their duties to the sick.

'The piety of the ancients,' concludes the Report, 'and of our ancestors, made them consider all plagues the immediate visitations of God's wrath. And there can be no doubt that though, as affecting individuals, there is nothing now judicial in plagues, they are the results of great national violations of the laws by which the Almighty is pleased to govern the universe.'

OUR CORRESPONDENTS.

We have, at divers times, given the public some idea of the general nature of our correspondence; but as the communications of our friends, notwithstanding the deprecating tone of our remarks, increase every week both in number and variety of character, we think ourselves called on to return to the subject. We are sensible that the brief replies we are able to make through the post to so many letters, can give but little satisfaction to the writers, and likewise that many of the epistolary commentaries we receive are deserving of a better fate than the waste basket. At the same time, the task of answering, even on the most limited scale, is no easy one; nor are we sure that we can, in reason, be expected to devote several hours every day to the consideration of subjects with which personally we have no proper concern. A few specimens of the various communications which reach us will, however, give a more clear insight into the nature of an editor's experiences in this respect than any general observations.

We commence with the class of inquiring correspondents, suppressing only the names of the writers.

'GENTLEMEN—If you can assist me in my inquiries respecting emigration to Texas, I shall feel greatly obliged, either publicly, or by a private answer. The subjects on which I wish to be enlightened, and which I should think are of the greatest importance to emigrants in general, are first, the nature, *geologically, naturally, and socially*, of Texas; its *form of government*, the *security of titles and tenure*, as well as *peace*, the state of *civilisation* it is in, the *relative responsibility* of the government to protect *British emigrants* against *fraud*; the *climate*, and its concomitant results, with respect to *disease or salubrity, fertility or sterility*, whether subject to *very violent storms or rains*, and for what length of time, or during what *months*; the *ability* of procuring *labour*, and *price of wages*, with the *customs of the labourers*, their *independence or servility*; the inland roads, means of conveyance, *lodging* in the country, public inns, and other public conveniences; the necessary articles for a family to take out; the length and expense of voyage, and the frequency of communication with England or Europe, &c.; and anything else you may deem necessary for an emigrant to know.

'My reason for troubling you is, that I do not feel disposed to rely on what is either published or put forth in form of prospectus by the parties advertising, knowing that whatever information I gain from your kindness may be fully depended on for the benefit of the industrious and deserving. Awaiting your reply, either personally or through the medium of your valuable Journal, believe me to remain,' &c.

Pretty well this; but it is outdone by the following:—

'DEAR SIRS—Although personally unknown to you, my long acquaintance with your writings almost makes me feel as if I stood in the relation of a friend. I admire above all things the genial character of your publications; and feel that so far from there being any intrusion in this letter, you will thank me for gratifying your well known love of imparting information. I have a few little questions to put to you, which I should be glad if you would answer by return of post. Rather than trouble you with them singly, I have kept a memorandum of them as they suggested themselves, or were suggested by my friends; and I now send them in the lump, that you may have but one trouble in reply, and but one postage to pay.

'First, as to the subject of emigration, I have to inform you that there are several parties in our town who are desirous of trying their fortunes in another quarter of the world, but are deterred by the difficulty they find in obtaining the requisite information. In order to settle the question at once, you will be good enough to state which is the best British colony for the following persons to betake themselves to—namely, a farm-servant; a stable-boy, newly married; five sisters, sempstresses, who decline going separately; a shopman, with his mother, wife, and two daughters; a lad of good, though poor parentage, but who has not been brought up to anything; two hair-dressers; and a sign-painter. Mention also what you think of the United States: and in particularising the various places proper for emigration, do not omit to give some account of the climate, productions, and wages, together with the prices of bread, meat, and beer, and any other little matters that may occur to you. It would likewise be satisfactory if you could mention what stores are requisite for steerage passengers of small means, and what is the best preventive of sea sickness.

'Please to let me know at the same time whether you mean to include Photography in the new series of "Information for the People;" what progress this system has made in the United Kingdom; and how many adherents you think it has obtained.

'In a volume of the "Annual Register" a few years ago, there was an account of a child born at Bloxley with three heads. Have the kindness to let me know the volume, and also the page; and add what have been the other remarkable instances throughout the world of this kind of *lusus nature*.

'The Greek kingdom of Bactria, founded by the successors of Alexander the Great, has doubtless attracted your attention. It is understood to have been swept away by a horde of Tartars; but it is matter of dispute in our Debating Society here what became of the fragments. Please to let us know the route of the scattered people, and with what nations they incorporated themselves; and copy a few of the inscriptions on ancient coins, and other monuments (if any), that have come to light.

'It is considered here that nightcaps, with an India-rubber band round the edge, to retain them on the head during sleep, would be a great improvement. Have the kindness to let me know whether anything of the kind has been tried; and if not, whether it would be advisable for the party to take out a patent for the invention, what the patent would cost, and the steps requisite for obtaining it. Be minute in all these points, as they are of great interest to a lady who is a warm admirer of the Journal.

'The interest you are well known to take in the rising generation, induces me to ask what course of study you would recommend for boys and girls in general?—whether you are in favour of public or private education?—whether governesses should be permitted to dine with the family when there is a party?—and what is the comparative cost of education in the various universities here and on the continent?'

To such letters as these, which we are receiving

daily, we can only reply by stating our total inability to answer the inquiries put to us; indeed to attempt to do so would occupy our whole time, to the neglect of our duties to the public. On the subject of emigration, which is a fertile theme of inquiry, we beg to state here once for all, that we decline offering any private or special advice. With the most anxious desire to befriend those who stand in need of information, we shrink from the responsibility of inducing any man to leave his home, whatever may be the general chances in his favour.

The next class of correspondents deserving notice are those who think they have cause to find fault with blunders into which we unhappily fall. The following is a specimen:—

'I have read the Journal from its commencement, sixteen years ago, and must do you the justice to say that I have discovered fewer errors in it than in any other miscellaneous work. This, however, is the very reason why your friends should be watchful, and never fail to rap you over the knuckles when you do go astray. You have lately committed two egregious blunders, which I take the liberty of pointing out, in the hope that for the future you will pay more attention to what you are about.

'A certain number of years ago you printed a translation called "Life's Value," and now we have another called "The Value of Life"—both from the same original! This is unpardonable. Do you expect the public to pay twice over even the sixth or seventh part of three-halfpence? Or have you perpetrated this blunder intentionally, for the sake of a miserable pun—that you might reply to the complaint of your readers, that you had done nothing worse than double to them the Value of Life? Have done with this trash! Your true excuse is inadvertence. You may plead in mitigation that this is the sole error of the kind in sixteen years—the only instance of twins among the many thousand articles that have seen the light within the space. That's your ticket.

'The second blunder is still more nauseous. In an article on "Mottoes," you not only misquote Lord Eldon's famous motto, but you mistranslate your own misquotation! As it is obvious that you cannot plead ignorance of the learned languages, what is it you do plead? I know that in almost every volume that is printed, we see a list of errata quite as incomprehensible; but where is your confession? I observe no acknowledgment of error in subsequent numbers, and the fault, therefore, is aggravated by impenitence.'

Our correspondent states nothing but the truth when he thus points out the errors in question. The only thing on which we would remonstrate is his want of temper. A very little consideration might have shown that we could have had no motive in committing these blunders. As to the tale, 'The Value of Life,' it is a different translation from 'Life's Value'; and was accepted, paid for, and inserted, without recollecting that another translation, by a different writer, had appeared seven years previously; and we can only now express our regret that such an unfortunate duplication should have occurred. How little does any one know of our anxiety to present varied and original matter, who imputes to us the miserable expedient of voluntarily offering the same articles twice! Our difficulty consists not in finding material, but in choosing from the accumulation before us, which usually amounts to as much as would make up half-a-dozen numbers. As to the second of the errors referred to (the work of a contributor on whose accuracy we had an over-confidence), it was noticed in time for correction only in our second edition.

Along with this class of correspondents may be included those who find fault with our paper and printing, and the binding of our volumes. A gentleman in Glasgow is much displeased because we do not give more margin, though we are not aware that there is any solid ground for complaint in this respect. Persons

who indulge in these maunderings are not aware of what they are asking. At the commencement of our 'Miscellany of Useful and Entertaining Tracts,' a purchaser complained that the sheets were not clipped in the edges. The idea of trimming them had occurred to ourselves, but had been abandoned as impracticable. Such was the vast mass to be cut, that the trimming of each number would have required the work of two men for four weeks, and cost L.7, 4s. To add but a quarter of an inch to the margin of our Journal, would cost L.188 per annum. This is one of the penalties of a large circulation; and we shall mention another, for it will answer several inquiries. We cannot introduce and benefit by advertising sheets in our monthly parts like other magazine proprietors, because a single sheet inserted into our fifty thousand Parts would require 104 reams of paper; and by no possibility could we realise the cost of such a mass from advertisements. Hence 'Chambers's Journal,' with a circulation many times that of any review or magazine, is the only periodical which does not invite advertisements. All we can do is to employ the coloured wrappers for our own or the announcements of others.

The next class we may take up are the mysterious correspondents, of whom in all probability we have not more than our proper share. All editors of periodicals can tell that they frequently receive letters conceived in a strain of meaning so deep, as to be quite unintelligible. It may perhaps be faintly gathered that they refer to some new view of the planetary system, something connected with man's immortal destiny, or some perfectly original project for sailing vessels with stem or stern indifferently foremost. These letters are not a sham—their writers are in earnest; and as an evidence of their sincerity, they occasionally accompany their epistles with pamphlets, which they have gone to the expense of printing. It is well known that a large number of books and pamphlets are printed annually in London on subjects incomprehensible to any one but their writers—a jumble of incoherent nonsense—the works, in short, of men who are mad on one idea. The following is a communication from a queer genius of this character:—

'Mankind may be divided into two classes—the good and the bad; and again into two other classes—the happy and unhappy; and yet again into two more—the black and the white; and over all these there is a heaven above, to use the words of an author that shall be nameless. You no doubt already perceive what is the object of this communication; but whether your feelings thereupon are of an enviable or an unenviable nature, I shall not determine. In a certain number of the E—J— (I shall decline specifying of what date), there appeared an article more or less connected with science, whether moral or physical, containing a sentence, near the middle of the said article, being the one to which you observe I wish to draw your serious attention. Now although this sentence involves no offence to religion, morality, or good government, still it has, in my humble opinion, a deficiency—I will not say of what importance. But observe, I speak hypothetically. We are all walking in the dark, and he who affects to see, adds folly to blindness. You alone can give the explanation I demand; and I consider it only just, and proper, and rational, and I may add philosophical (without meaning any reference whatever to particular systems), to await the said explanation, before fulminating the rebuke I have in store for you. Leaving you in the meantime to your own reflections, your own conscience, your own terrors, as it may be, I send this communication by a circuitous route, which it will be impossible for you to trace, subscribing to it the following initials—which are not my own—A. B.'

We may now proceed to the juvenile correspondent, of whose communications the following is an average specimen:—

'DEAR SIR—I take the liberty of sending you a poem, which I hope you will be glad to insert in *Mr*

Chambers's Edinburgh Journal, when you know it is written by a young lady. I am only thirteen on the 10th of next month. I know there are some errors both in the subject and in the spelling; but as it is my *very first* poetical production, I am sure you will look over all faults, and consider it worthy of insertion. The gentleman enclosed is my uncle, and a distinguished D.D.

The 'gentleman enclosed' certifies that 'the young lady is really only thirteen; that her friends, who move in the first circles, will be delighted to see her poetical works in print; and that in his (the D.D.'s) opinion, the editors can have no possible objection to give them a place.' In plain English, Chambers's Journal is to be a receptacle for nursery rhymes, in order to please those 'who move in the first circles.'

We would pass from requests of this nature to another class of correspondents equally unselfish in their demands. These we may call correspondents-mendicatory. They compose a genera of three species. The first are musical composers in London, who request permission to set verses to music which they see in the Journal. As the request is usually accompanied with some terrible tale of family distress, it is rarely refused. The second cannot be treated so indulgently. They are persons who have taken a fancy to some of the treatises in 'Chambers's Educational Course'—these treatises they admire very much—so much, that they ask permission to turn them into books of question and answer for their own behoof; assuring us at the same time that they are quite certain the transformation into catechisms will not in any respect injure the sale of our productions. Leaving the public to guess at our answer to these civil requests, we come to the third species, of whose communications the following is a sample:—

'DEAR, KIND SIRS—I am a teacher employed by the ———, who have been in England two years for the sake of my health. It is my intention to return to ———, in the West Indies, in the course of next month, and there resume my labours among the poor children of Africa. Knowing your humane and Christian disposition, as evidenced in your meritorious works (which I have read many a time beyond the Atlantic), I have taken the liberty of asking a favour. It is, to make me a gift of a few of your excellent school books, with a view to the instruction of the negroes, both young and adult. You will be delighted to know that these poor and once oppressed beings show a wonderful aptitude for literary instruction. They are of course very far behind, and even the elder amongst them must be looked upon as children. They are all pleased with books with pictures, and like anything droll. I have seen a whole village kept in amusement for a week with a halfpenny edition of Cock Robin; and for long after, they might be heard singing snatches of that juvenile work. On this account, I ask you to be so kind as let me have some of your books of early lessons, containing wood-engravings. If you could let me have fifty of the "First and Second Book," thirty of the "Simple Lessons," and twenty of the "Rudiments of Knowledge," with, say half-a-dozen of your cheapest "Atlas," it would be conferring not alone a favour on me, but on many poor beings who are now struggling into the light of civilisation, and are crying to their more highly-favoured brethren for help. I am permitted to refer you to ———, Liverpool, to whom the packet could be forwarded. Trusting to a favourable reply,' &c.

'P.S.—If you could include a selection of the "People's Editions," the favour would be greatly enhanced in value.'

We have, on a former occasion, said something of our literary correspondents, and their distribution throughout the three kingdoms; and we have now only to notice, as an indication of the course taken by education, the surprising increase in the number of translators. A day rarely passes without bringing us several offers of translations from the French and German, but more especially the former; and we have thus the constantly-recurring

task of rejecting services, sometimes eagerly offered, and often by apparently amiable and accomplished persons. The circumstance, however, although productive of trouble, and occasionally of painful feeling to us individually, is one of good promise. It is obvious that in this country we are rapidly establishing an intellectual inter-communion with the two most literary nations of the continent; with whom we may thus be said to be exchanging hostages for the preservation of peace and mutual respect and good-will.

'I AM IN THE WORLD ALONE.'

LITTLE child!—I once was fondled as tenderly as you:
My silken ringlets tended, and mine eyes called lovely blue;
And sweet old songs were chanted at eve beside my bed,
Where angel guardians hovering their blessed influence shed.
I heard the sheep-bell tinkle around the lonely sheiling,
As the solemn shades of night o'er heather hills were stealing:
The music of the waterfall, in drowsy murmurs flowing,
Lulled me in half-waking dreams—bright fantasies bestowing.
My nursing ones to Heaven are gone—
'And I am in the world alone.'

Fair girl!—I had companions, and playmates kind and good,
And on the mossy knolls we played, where ivied ruins stood;
The mountain-ash adorned us oft, with coral berries rare,
While clear rejoicing streams we sought, to make our tiring there;
And on the turret's mouldering edge, as dames of high degree,
We sat enthroned in mimic state of bygone chivalry;
Or at the mystic twilight hour, within those arches gray,
We told each other wild sad tales of times long past away.
My early playmates all are flown—
'And I am in the world alone.'

Gentle woman!—I was deemed as beautiful as you;
My silken ringlets fondled, and mine eyes called love's own blue;
And then my step was bounding, and my laugh was full of mirth,
Ah! I never thought of Heaven, for my treasure was on earth:
But now my cheek is sunken, and mine eyes have lost their light—
The sunny hours have faded in a long and rayless night;
Not rayless—no!—for angels still their blessed influence shed,
And still the dreams of peace and love revisit oft my bed.
Of earthly treasures I have none—
'And I am in the world alone.'

C. A. M. W.

HOW TO PUNISH THOSE WHO INJURE YOU.

Addin Ballou tells the following anecdote:—'A worthy old coloured woman, in the city of New York, was one day walking along the street quietly smoking her pipe. A jovial sailor, rendered a little mischievous by liquor, came sawing down, and when opposite the old woman, saucily pushed her aside, and with a pass of his hand knocked the pipe out of her mouth. He then halted to hear her fret at his trick, and enjoy a laugh at her expense. But what was his astonishment when she meekly picked up the pieces of her broken pipe, without the least resentment in her manner; and giving him a dignified look of mingled sorrow, kindness, and pity, said, "God forgive you, my son, as I do!" It touched a tender chord in the heart of the rude tar. He felt ashamed, condemned, and repentant. The tear started in his eye: he must make reparation. He heartily confessed his error; and thrusting both hands into his full pockets of change, forced the contents upon her, exclaiming, "God bless you, kind mother; I'll never do so again!"'—*American paper.*

SCIENCE OF THE PRESENT DAY.

The characteristic peculiarity of the science of the present day is its delight in details. A mass of pebbles are collected together—each one, perhaps, being cursorily examined and named—but they remain useless lumber, by which the highway of science is obstructed; whereas by the exercise of industrious thought, and by enlarged views, they might have been moulded to a form at once beautiful, as illustrating nature's design, and useful, as facilitating the further progress of man.—*Pharmaceutical Times.*

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